AUSIMM ASSESSMENT SCHEME

FOR

REGISTERED PROFESSIONAL ENGINEERS QUEENSLAND

APRIL 2021

The Australasian Institute of Mining and Metallurgy

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Preamble

The AusIMM Assessment Scheme

The AusIMM maintains an Assessment Scheme for registration of professional engineers for the Board of Professional Engineers Queensland.

The status of this Scheme follows the period of approval of the AusIMM Assessment Scheme from July 2014 to end-June 2018, with a further 12-month extension, and applies from July 2019 to June 2024.

This Assessment Scheme is required to satisfy the requirements of the Professional Engineers Act 2002 (Qld) included in:

- Section 112B Suitability of assessment schemes for approval, and:
- Section 112D Application for renewal

The Assessment Scheme is also required to satisfy the BPEQ 'Instructions for Applying for Approval, Renewal or Variation of an Assessment Scheme', Version 1, approved 11 July 2019.

About the AusIMM

The Australasian Institute of Mining and Metallurgy (The AusIMM) was formed in 1893 and is the leading organisation representing over 13,000 minerals sector professional members in Australasia and internationally, across industry, government and academia.

Our members include professionals from traditional disciplines such as mining engineers, geoscientists and metallurgists, as well as from emerging disciplines such as business management, health and safety, social and environmental science.

With a focus on 'enhancing professional excellence', The AusIMM provides members with an ongoing program of professional development opportunities to ensure our members are supported throughout their careers to provide high quality professional input to industry and the community.

The AusIMM Charter and By-Laws

The Australasian Institute of Mining and Metallurgy is a group of individual minerals professionals working together with a focus on professional excellence. The AusIMM was incorporated under the Companies Act, and in 1955 it was granted incorporation by 'Royal Charter' (the AusIMM Charter) in Australia and New Zealand.

In 2017, the Governor General of Australia granted a supplemental Royal Charter and new By-laws, confirming AusIMM's incorporation in Australia. This Charter came into effect on 1 January 2018.

The AusIMM Charter describes the core purposes of the AusIMM, establishes the Institute as a not-for-profit organisation, and requires that the Institute have a set of By-Laws. The AusIMM's By-Laws, together with the Regulations, establish key elements of the Institute's structure (for example membership grades, the existence of Branches and Societies and the AusIMM Board). Together these documents form the Institute's constitution.

The previous AusIMM By-laws (last amended in June 2013) are superseded by the new By-laws from 1 January 2018. The new governance structure also comprises Regulations, which may be altered by Board decision with 30 days' notice to members.

Contents

1. Areas of Engineering

Assessment of Qualifications and Competencies of Engineers in an Identifiable Area of Engineering

1.1 Areas of Engineering

The AusIMM Assessment Scheme includes four areas of engineering practice which are specific to the Mining sector, as follows:

Environmental Engineering

An Environmental Engineer is a professional engineer who undertakes activities which aim to minimise environmental harm being caused by single or multiple mining operations.

Metallurgical Engineering

A Metallurgical Engineer is a professional engineer who either investigates, plans, designs or directly controls the process of converting minerals produced by mining into primary commodities of economic value in sufficient quantity to be used in the manufacture of economic goods.

Mining Engineering

A Mining Engineer is a professional engineer who investigates, plans, designs or directly controls the process of extracting naturally occurring minerals containing useful commodities from the earth's crust.

Geotechnical Engineering (Mining)

A Geotechnical (Mining) professional investigates plans, designs and monitors the process of creating fit-for-purpose mining excavations associated with the surface or underground excavation of an in-situ rock mass, or matters directly associated therewith, including the construction or excavation of in-pit or underground infrastructure, the construction of waste dumps and stockpiles, or tailings dams, and the placement of backfill.

(This discipline does not include geotechnical investigation and design for the construction of civil infrastructure on a mine site, specifically including access roads and rail lines, foundations for the construction of buildings and processing facilities. The discipline also does not cover civil tunnelling or civil underground storage).

1.2 Assessment of Qualifications and Competencies

The qualifications for Registered Engineers in the Mining areas under the AusIMM Scheme are detailed in the table in **Appendix A**, and are based on two key criteria:

- Minimum four-year Bachelor of Engineering degree accredited or recognised by a body responsible for accreditation or recognition of tertiary-level engineering qualifications that is a signatory to the Washington Accord 1989; or an academic qualification that has been assessed by the accredited authority for Australia under the Washington Accord 1989 to assess qualifications as equivalent.
- Five years of postgraduate experience in the relevant area of engineering

In circumstances where the applicant does not hold a Washington Accord accredited 4-year Bachelor of Engineering degree, their undergraduate degree and any relevant post graduate qualifications must collectively satisfy Stage 1 Competency Assessment by the approved organisation within Australia by demonstrating equivalence to the Washington Accord requirements.

Candidates for RPEQ are required to demonstrate relevant technical competencies for specific areas of practice in each area of engineering. These areas of practice and levels of competency are detailed in the AusIMM Guidelines and are described in **Appendix B**.

1.3 Standard Conditions

Additional requirements for assessment of RPEQs in the mining sector include the following application requirements as specified in the BPEQ 'Instructions for Applying for Approval, Renewal or Variation of an Assessment Scheme', Version 1, approved 11 July 2019:

1. The AusIMM complies with the Assessment Scheme as approved by BPEQ and the Minister.

2. The AusIMM will not vary the scheme without the Minister's approval.

3. The AusIMM will publish the scheme on the AusIMM website, including any conditions the Minister imposes on the scheme's approval.

4. All applicants must verify their identity in accordance with the recognised 100-point identification process within relevant Government Agencies and in accordance with the National Privacy Principles contained in schedule 3 of the Privacy Act 1988 (Cth).

5. All applicants must provide the original or a certified copy of each document that demonstrates the applicant's qualifications.

6. All applicants must have any certified copies of documents they provide, certified by authorised persons in accordance with the relevant State legislation where the documents originate.

7. All applicants who have documents in a language other than English, must provide those documents translated into English in accordance with the BPEQ Instructions.

8. The AusIMM will notify BPEQ within seven days if an RPEQ does not participate in a PD audit within 30 days of the AusIMM requesting the RPEQ to respond to an audit.

9. The AusIMM will provide BPEQ with written advice by no later than 30 March each year, for the previous 12 months (March-Feb), details and statistics related to the PD audits as described in the BPEQ Instructions.

10. The AusIMM will notify BPEQ within seven days of becoming aware of any non-compliance with PD requirements, non-participation in PD audits when requested, inadequate competencies or qualifications, fraud, dishonesty or detection as described in the BPEQ Instructions.

11. The AusIMM will maintain records of all activities under this Assessment Scheme in accordance with the Public Records Act 2002 (Qld).

12. The AusIMM is subject to audits of its compliance with the Assessment Scheme, as described in the BPEQ Instructions.

1.4 Identity Verification Requirements

The AusIMM will verify the identity of applicants for assessment under the scheme in accordance with the recognised 100-point identification check utilised within relevant State and Federal Government Agencies. Any collection of private information will be in accordance with the National Privacy Principles ("NPP") in accordance with schedule 3 of the Privacy Act 1988 (Cth).

1.5 Certification of Documents

The AusIMM will require that applicants for assessment have any certified copies of documents provided, to be certified by authorised persons in accordance with the relevant State legislation where the documents originate.

2 National and International Standards

Consistency with National and International Standards for the Recognition of Professional Engineers

2.1 Alignment with Engineers Australia and Professionals Australia

The AusIMM maintains standards and criteria for assessment and registration in alignment with the requirements of Engineers Australia and Professionals Australia. The key principles and requirements for registration are as follows:

- A Washington Accord four-year engineering degree
- Five years' minimum experience in the relevant engineering discipline
- Assessment of competencies relevant to the areas of engineering
- Ongoing professional development of 50 hours per year, based on 150 hours over a rolling 3-year period, with regular audits of PD activity hours.
- Recommendation by three sponsors

We understand these standards to be internationally benchmarked by Engineers Australia, in accordance with the International Engineering Alliance and the Washington Accord for Professional Engineers.

2.2 The Global Mineral Professionals Alliance (GMPA)

AusIMM is proud to be one of the founding partners in the Global Mineral Professional Alliance (GMPA), a collaboration of leading professional organisations for minerals professionals around the world. The GMPA member institutes take a leadership role in the pursuit and continuing development of best practice professionalism in the minerals industries. Areas of focus include science, engineering, mineral processing, environmental stewardship, community engagement and mineral economics and finance.

In addition to the AusIMM, the member institutes are:

- Canadian Institute of Mining, Metallurgy and Petroleum (CIM)
- The Institute of Materials, Minerals and Mining (IOM3)
- Peruvian Institute of Mining Engineers (IIMP)
- The Southern African Institute of Mining and Metallurgy (SAIMM)
- Society for Mining, Metallurgy and Exploration (SME)

The GMPA collaboration enables AusIMM and its partners to pool resources and effort to bring excellent professional development opportunities for members, including through conferences which are delivered collaboratively (many on a rotating basis between partner institutes) and we are actively exploring opportunities to develop publications and online learning resources for members as collaborative effort between the partner institutes.

The GMPA operates under a Memorandum of Understanding. The MoU is kept under regular review and will be updated to reflect continuing developments in GMPA activities and membership.

As the GMPA develops further, it is envisaged that further professional institutes will be welcomed into the partnership. The membership of GMPA is a matter that will be determined by the current members.

GMPA members are required to:

- Work together to identify and deliver collaborative projects that are of mutual benefit.
- Share knowledge and resources regarding effective ways to support the professional development of institute members.
- Be a partner of or commit to joining the OneMine Global Mining Database.

Candidates for membership of GMPA will generally be the principal organisation representing mining professionals of its nation (or multi-nation region), will typically comprise members who practice, represent and promote the multiple technical disciplines inherent to mining activities, have “not-for-profit” status, and must have an enforceable Code of Ethics.

In limited circumstances it may be appropriate for two organisations from a nation or multi-national region to join GMPA where no single organisation represents the breadth of minerals professions and where the two organisations complement (rather than compete with) each other.

AusIMM membership of the GMPA allows AusIMM members who are registered engineers to compare and maintain engineering knowledge and technical standards, aligned with international developments across the mining sector.

3 Assessment Procedures

Procedures for the Assessment of Applicants under Part 2 that are Conducted in an Independent and Professional Manner

3.1 Assessment for Registered Professional Engineers of Queensland (RPEQ)

The AusIMM under agreement with the Board of Professional Engineers Queensland (BPEQ) may assess engineers applying for Registered Professional Engineer of Queensland (RPEQ) registration, who wish to provide Professional Engineering Services under the Professional Engineers Act 2002 (PE Act) within the mining industry in the state of Queensland. The AusIMM does not have the authority to assess engineers who carry out *non-mining* professional engineering services on mine sites in Queensland.

Core disciplines in which applications can be assessed for recommendation as an RPEQ are:

- Environmental Engineering
- Mining Engineering
- Metallurgical Engineering
- Geotechnical Engineering (Mining)

Following assessment and a positive recommendation by the AusIMM, the individual must apply directly to the BPEQ for registration.

Applicants may apply for RPEQ accreditation and Chartered Professional accreditation concurrently.

Registered Professional Engineers of Queensland (RPEQ) applicants must meet the same admission requirements and follow the same application process as applicants for Chartered Professional accreditation, with the following exceptions:

- RPEQ only applicants are *not* required to be current members of AusIMM;
- RPEQ applicants must hold a four (4) year engineering degree in the discipline applied for or be deemed to have equivalent qualifications as per the Guideline 2 Qualification requirements.
- RPEQ applicants will pay the fee for RPEQ assessment to the AusIMM. A separate fee for RPEQ registration is payable to the BPEQ.

Those assessed as competent for an RPEQ recommendation are subject to the Chartered Professional PD requirements, as detailed in Guideline 5 Professional Development requirements. The AusIMM will undertake PD audits of RPEQ registered members on behalf of the BPEQ when requested.

3.2 Key Eligibility Requirements

A person shall be eligible for RPEQ registration as a Professional Engineer if they meet the following eligibility requirements:

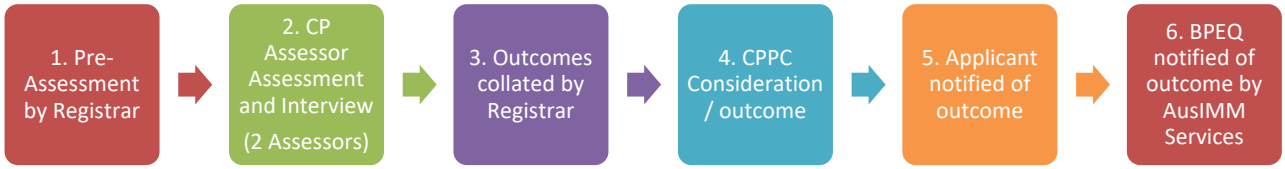
- An appropriate engineering degree or equivalent as outlined in section 1.2 relevant to the discipline in which registration is sought. Certified qualification documentation must be provided, if not previously supplied to the AusIMM.
- At least five years of relevant work experience within the mining industry in each of the engineering disciplines being applied for, demonstrated by a detailed curriculum vitae (CV);

- Demonstrated key competencies, detailed by a written response to the Competency Statements providing clear evidence the applicant has worked competently in the area of practice and in the discipline applied for a period of at least five years since qualification.
- Nomination of three (3) sponsors who are familiar with and can substantiate the applicant's qualifications and experience. Sponsors are asked to provide a detailed peer review to confirm the competency of the applicant. Guidelines describing who can sponsor an applicant are detailed in Appendix E: Sponsor requirements.
- A minimum satisfactory level of relevant Professional Development during the three years prior to the application for RPEQ. This must be demonstrated by a completed AusIMM online PD logbook, providing evidence that in the last three years the applicant has completed 150 hours of Professional Development in compliance with Guideline 5 Professional Development requirements, including at least 75% of technical PD related to the discipline:
- A declaration that:
    - All the information being submitted is a true and fair representation of the applicant's recent responsibilities, qualifications and experience.
    - They will adhere to the Code of Ethics of The AusIMM and the BPEQ Code of Practice.
    - They will commit to maintain the level of Professional Development required by this scheme and BPEQ Continuing Registration Requirements (CRR) Policy.

- Payment of the application fee.

3.3 Assessment Process

An overview of the AusIMM assessment process for RPEQ is as follows:



The AusIMM assessment requirements for RPEQ are as follows:

- Applications will be assessed by two (2) Assessors and the outcome ratified by the CPPC.
- As part of an application, Assessors will undertake a Professional Interview, with an online interview arranged with the applicant in accordance with the procedures described in Section 3.4 below.
- Where the two Assessors do not agree on the outcome of a PD review, the Registrar will forward the assessment to the Chair and Deputy Chair or Immediate Past Chair of the CPPC for consideration and decision. If they cannot agree on an outcome, the assessment will be forwarded to the full CPPC for consideration and decision.
- The CPPC shall have absolute discretion, subject to the requirements of this scheme being met, to:
    - approve or deny an assessment for RPEQ; and
    - review a RPEQ's competence and ability to meet the requirements of the scheme at any time provided the RPEQ was assessed by AusIMM.
- If the CPPC is satisfied that an applicant is eligible, the applicant will be recommended to the BPEQ for registration in the appropriate discipline and notified accordingly.
- Rejected applicants will be advised accordingly, and feedback on their application will be provided.

- Any rejected applicant may re-apply after 12 months from the date of rejection by submitting a new application and will be required to pay the application fee again.
- The CPPC will reject an application if requested information is not supplied by the applicant or their sponsors within 90 days of the CPPC request unless extenuating circumstances exist. Applicants rejected due to incomplete applications may re-apply after 6 months from the date of rejection by submitting a new application and will be required to pay the application fee again.

3.4 Professional Interview

In accordance with the BPEQ 'Instructions for Applying for Approval, Renewal or Variation of an Assessment Scheme (2019)', interviews are required for all RPEQ applicants.

This procedure is for the final stage of the application and assessment process for the RPEQ credentials. Interviews are required for all RPEQ applications, as per the following requirements.

The requirements for an interview to be undertaken as part of assessment for CP and/or RPEQ are as follows:

- Interviews will be held by video link wherever possible. If not possible due to technology constraints, then a telephone interview is acceptable, provided identity can be confirmed.
- Interviews will be arranged by the AusIMM Accreditation team and chaired by an AusIMM staff member.
- The interview should be attended by both assessors undertaking the assessment of the application. If both assessors are not available, then at least one assessor must attend with qualifications and experience in the same discipline of the applicant.
- In the case of RPEQ, at least one assessor must have an RPEQ credential.
- The interview should be scheduled for a minimum of 30 minutes; however, allowance should be made for an extension of up to another 30 minutes if required, to cover additional questions from the assessors.
- The interview should focus on specific questions that the assessors seek to have addressed, and/or additional questions available to the assessors as per the attached proforma sheet.

Following completion of the interview, the AusIMM Accreditation team will summarise the outcomes for the assessors to confirm and seek the final assessment decision from the assessors.

The AusIMM Accreditation team will then notify the candidate and the BPEQ of the assessment outcome.

3.5 Applications for Two RPEQ Professional Disciplines

- If an applicant wishes to apply for RPEQ registration in two disciplines, two separate applications must be completed. Each will be assessed independently, and applicants must demonstrate that they are fully qualified and experienced in each discipline.
- The applicant must demonstrate that they have completed and agree to maintain their PD commitments for each discipline in which RPEQ registration is sought (150 hours for each discipline). The full 300 hours of PD must be demonstrated at the time of application and the PD Logbook journal entries must specify to which discipline the hours are to be applied.
- Applicants for two disciplines must supply three (3) sponsors in support of each discipline; however, one (1) sponsor may be used in both applications.
- Applicants for multiple RPEQ registration will be required to pay the application fee for each discipline in which RPEQ registration is sought.

3.6 Applications for Discipline Transfers

- Where an applicant has a recorded history of assessment and currency as an RPEQ and wishes to transfer to a different discipline, such as Mining Engineering into Geotechnical (Mining), they are eligible to submit an abridged application.
- Current RPEQs applying for discipline transfer to a different technical discipline are permitted to submit an abridged application where they supply:
    - one Sponsor from their current workplace who can testify to at least the most recent 12 months of employment;
    - a PD logbook that demonstrates 150 hours of acceptable PD, including at least 75% of technical PD related to the new discipline;
    - a current CV;
    - competency statements for the new technical discipline; and
    - evidence of qualifications in the new discipline.
- Applicants eligible to submit an abridged application may be asked to provide further information on request.

4 Continuous Improvement

Procedures for Monitoring and Improving the Assessment Process Carried out Under the Scheme

4.1 Monitoring and Improving the Assessment Processes

The monitoring of the AusIMM assessment processes is undertaken through the Chartered Professional Program Committee (CPPC), which oversees the Chartered Professional Program and RPEQ assessment, and provides governance to ensure the program is compliant with the AusIMM Charter and By Laws, the BPEQ requirements, and the Chartered Professional Regulations and Guidelines.

The CPPC meets on a monthly basis and makes recommendations on the Chartered Professional Program strategic direction to the AusIMM Board, including potential amendments to the Chartered Professional Regulations and the CP program policies and processes.

The CPPC considers for ratification the outcomes of RPEQ and CP application assessments and professional development reviews and considers and decides the outcome of any special consideration requests. The CPPC also considers and decides the outcome of any RPEQ or CP application assessments or professional development review following an Assessor disagreement.

The CPPC monitors the performance of Assessors by performing quality assurance audits or delegating these audits to experienced Assessors.

The CPPC liaises with stakeholders to promote and support the program, and reports on the Chartered Professional Program to the CEO and AusIMM Board, including regular reports on memberships and budget.

The CPPC reviews all reports, CPD audits, QA audits, feedback from assessors and candidates, and industry responses, to identify and improve the assessment processes wherever possible. Ayn and all amendments to these assessment processes are submitted to the BPEQ for approval before amendments can be made.

4.2 Quality Assurance (QA) Audits

Overview and Quality Assurance (QA) auditing of RPEQ and CP application assessments and PD reviews are undertaken by the CPPC on a regular basis to ensure guidelines and procedures are being followed at all times, and that decisions are repeatable and verifiable.

The steps in the review of the Assessment QA process are as follows:

1. Registrar selects application and PD Reviews for audit
2. QA Auditor Blind Assessment
3. QA Auditor compares to original; identifies issues
4. Registrar escalates and reports on issues

Step 1. Registrar / CPPC select application assessments and PD reviews for audit on a quarterly basis

The Registrar will review completed application assessments and PD reviews and select approximately 20 per cent (spread evenly as practical across the Assessors) for a QA audit. The CPPC may also refer applications or PD Reviews to the Registrar for QA audit.

Step 2. QA Auditor completes a blind assessment

The Registrar will allocate the selected QA audits to a member of the CPPC or an experienced Assessor nominated by CPPC (the QA Auditor).

The QA Auditor will complete their assessment of the application or PD Review without seeing the original assessment and notify the Registrar when this stage has been completed.

Step 3. QA Auditor compares to original assessment

The QA Auditor will then receive the Assessor's reports and will compare them, looking for gaps between the Assessor's report and procedures and guidelines.

The QA Auditor will complete a written report for each Assessor, noting any issues identified and classifying them as either 'Low', 'Medium', 'High', or 'Significant', as follows:

Issue Rating	Description
Low:	Minor control weakness or assessment inconsistency which represents an opportunity to improve. Auditors to communicate with Assessors with advice and inform CPPC on a routine basis.
Medium:	Issue observed does not conform with standards or processes. Mitigation reasoning may be observed but still represents a departure from agreed standards. Chair of CPPC to be notified. Assessor(s) not to undertake any further assessments or reviews until they have been re-trained in that aspect. All Assessors and CPPC advised of issue on a monthly basis.
High:	Issue observed is a serious breach of standards and/or processes and there is a risk of reputational damage. If an appeal was lodged on due process, it may be successful. Requires immediate attention of CPPC (and CEO), and complete retraining and re-assessment of Assessor(s) involved. Consider further QA Audits of relevant Assessor(s).
Significant:	Issue observed poses unacceptable risk to the program and the AusIMM. Immediate intervention by CPPC is required and the matter to be brought to the attention of the CEO and President of the AusIMM. If issues are deemed to represent an unacceptable risk of future poor judgement by the Assessor(s) involved, they will be relieved of their assessment duties. Assign further QA Audits of relevant Assessor(s).

The QA Auditor will notify the Registrar immediately if any Medium, High or Significant issues are identified.

Step 4. Escalation and reporting of identified issues

The Registrar will immediately escalate any Medium, High or Significant QA audit findings to the Chair of CPPC and facilitate the course of action decided upon.

The Registrar will report a summary of QA audit findings on a regular basis to the CPPC and annually to the AusIMM Board.

The Registrar will report any Medium, High or Significant QA audit findings to the AusIMM Board in the Chartered Professional report.

5 Fee Schedule

Fees Imposed Under the Scheme for the Assessment of Qualifications and Competencies are Reasonable Having Regard to the Scope of Services Being Offered

5.1 Application/Assessment Fees for RPEQ

The following fees are for an RPEQ assessment and recommendation only. Following assessment and a positive recommendation by the AusIMM, the individual must ***apply directly to the BPEQ for registration***, which requires payment of an application and registration fee to the BPEQ.

Applicant status	**Fee (excludes GST)**
Non-member	$600
AusIMM Member or Fellow (not a CP)	$500
AusIMM Chartered Professional (CP)	$0 (free RPEQ assessment for existing CPs)

Current Chartered Professionals may request a RPEQ assessment letter to present to the BPEQ free of charge. Documents required include:

- a current CV with the request for the RPEQ assessment letter
- completed PD logbook with the necessary 150 hours in the previous three years prior to requesting the letter.
- Qualifications to be checked to ensure compliance with the BPEQ's eligibility criteria.

New applicants may apply for RPEQ assessment and Chartered Professional accreditation concurrently, paying the Chartered Professional application fees and receiving the RPEQ recommendation free of charge.

5.2 Re-assessment of Fees for RPEQ and Chartered Professional

The AusIMM fees for RPEQ and CP assessment are reviewed annually, based on effective costs of assessment, review of previous budgets and costs, and cost recovery.

Any proposed changes to current fees for RPEQ assessment would be discussed with the BPEQ prior to any changes being made.

6 CPD Requirements

Continuing Professional Development Requirements for Professional Engineers and an Audit Program to Ensure Continuing Registration Requirements are Met

Registered Engineers under the AusIMM Assessment Scheme must engage in a personal program of Professional Development (PD) activities, as required for all AusIMM Chartered Professionals. Continuing Professional Development is important for Registered Engineers to demonstrate currency in their discipline.

The CPD requirements for RPEQ must be followed generally in accordance with the BPEQ's Continuing Registration Requirements ***(CRR)*** Policy (2.02). CPD categories and hourly limits for the mining sector should be in accordance with Appendix C of this document, with the additional following requirements:

- complete a minimum of 150 hours of structured continuing professional development (***CPD***) over a three-year period leading up to the renewal or restoration of their registration;
- undertake a minimum 75% (112.5 hours) of the 150 hours as technical CPD;
- undertake a maximum 25% (37.5 hours) of the 150 hours as non-technical CPD;
- undertake as a minimum, 1 hour of non-technical CPD covering ethics; and
- undertake as a minimum, 1 hour of non-technical CPD covering risk management.

6.1 Key PD Requirements

Within each three (3) year period at least 150 hours of PD activities must be completed, averaging 50 hours per year, including at least 105 hours of technical PD related to the discipline;

- Professional Development (PD) should focus on learning and activities in areas relevant to their technical or Management discipline *over and above* normal work-related activities.
- To maintain Registration, a Registered Engineer must engage in a personal program of PD activities. Within each three (3) year period at least 150 hours of PD activities must be completed, averaging 50 hours per year.
- The 150 hours over three (3) years must include:
  - For RPEQ's in a technical discipline (not Management) a *minimum* of 75% (112.5 hours) of discipline specific technical PD;
  - PD from at least one of the PD categories in **Appendix C**, noting the *maximum* allowed for certain categories.
- Where an RPEQ career is transitioning towards Management and their PD no longer reflects their technical discipline, they will no longer be entitled to RPEQ, based on an unsuccessful PD Review due to a lack of technical PD.

6.2 Recording and declaring Professional Development (PD) undertaken

Registered Engineers must maintain a record of Professional Development undertaken for each discipline in which they are accredited.

If Registered Engineers are also Chartered Professionals, they must update their AusIMM PD logbook at a minimum of every three (3) months, recording any PD undertaken or entering 'nil' if no PD undertaken in that period. Reminders will be sent to RPEQ's to complete this update, and any RPEQ who does not comply may be flagged for a PD Review.

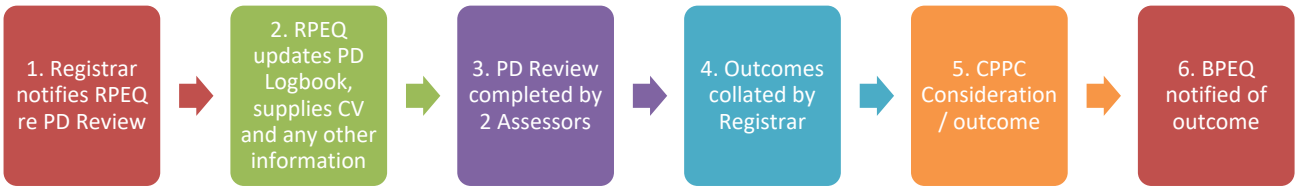
6.3 Career breaks, isolated work and other special circumstances

Registered Engineers may apply for a PD exemption or reduction if they undertake a career break, are undertaking isolated work or are impacted by other special circumstances.

6.4 PD Reviews (Audits)

The AusIMM will conduct random and non-random PD Reviews of Registered Engineers PD hours (previously called PD audits). These audits are undertaken in accordance with the program as directed by BPEQ at regular intervals.

An overview of the PD Review process is as follows:



Registered Engineers (as for AusIMM Chartered Professionals) will be selected for a PD Review when requested by the BPEQ.

When called for PD Review a Registered Engineer must within one month provide the following:

- Details of their recent experience and current practice in the form of a detailed and technically focused current curriculum vitae (CV) that details the member's areas of professional practice covering at least that three-year period. CVs that contain insufficient detail will not be accepted.
- A record of PD activities over the immediate past three years, or a time period in the previous 3-4 years as specified by the Registrar, by ensuring information in the AusIMM online PD Logbook is up to date and any evidence relating to the entries is uploaded where possible.
- Reflection on PD undertaken by completing the questions in the AusIMM online PD Logbook.
- Any other information that is requested by the Registrar to clarify the evidence provided, such as a summary of diary records, course/seminar enrolment records, receipts, certificates, assessment reports, employer/supervisor/peer/client reports or statutory declarations.

7 Selection and Training of Assessors

Competent Persons to Perform Assessments of Applicants Under Part 2 and has Proven Procedures for Training and Accrediting those Persons who will Perform the Assessments

7.1 Selection of Assessors

The CPPC appoints and maintains a sufficient number of Chartered Professional members as Assessors in the various disciplines to achieve RPEQ and CP application assessments and professional development (PD) reviews in a timely manner. The AusIMM engages competent, experienced Assessors to undertake assessment of applicants for both RPEQ and the Chartered Professional credential. The same Assessors are engaged to undertake assessment for both credentials.

7.2 Role of the Assessors

Chartered Professional Assessors use their discipline specific skills and experience to assess applications for the AusIMM Chartered Professional Program and Board of Professional Engineers of Queensland (BPEQ) registration and conduct Professional Development (PD) reviews of CP members.

Chartered Professional Assessors are volunteers of the AusIMM, and report to the Chartered Professional Program Committee (CPPC).

It is a requirement that a new Assessor will undertake training prior to commencing assessment tasks. The processing of RPEQ / CP application assessments, PD reviews and related administrative work will involve approximately 2-3 hours of Assessor time per month.

7.3 Eligibility and Application Requirements for Assessors

Applicants for an RPEQ / Chartered Professional Assessor must:

- be a current AusIMM Chartered Professional with at least five years' experience as a RPEQ / CP in their selected discipline;
- demonstrate at least five years' recent experience in the discipline applied for by submitting a detailed, current CV, plus a statement of no more than 150 words outlining their professional background and experience, along with any relevant involvement with AusIMM activities;
- demonstrate a commitment to being a RPEQ / CP Assessor by providing a statement of no more than 150 words outlining why they wish to become a RPEQ / CP Assessor, and the contribution they would like to make;
- upon application, pass a Professional Development (PD) review; and
- provide the endorsement of three supporters who are also RPEQ / CP's, two of whom must be in the same discipline.

7.4 Training of Assessors

New Assessors are required to undertake training using tutorial videos, which describe and work through the RPEQ / CP assessment requirements, criteria and procedures. New Assessors are then requested to complete three trial application assessments, which are reviewed by an experienced Assessor, to provide feedback.

The experienced Assessors, having reviewed and commented on the trial assessments, will advise the Chair of the CPPC on whether the new Assessors have successfully completed the trial assessments and are ready for work on real assessments from RPEQ / CP candidates.

7.5 Role of the Chartered Professional Program Committee

The work of the AusIMM team of Assessors is overseen by the AusIMM Chartered Professional Program Committee (CPPC), which provides governance for the Chartered Professional Program of the AusIMM. The Chartered Professional Program Committee reports to the Chief Executive Officer of the AusIMM under authority delegated by the Board.

Refer to **Appendix D** for Terms of Reference for the CPPC.

The CPPC is a governance committee, supported by a team of RPEQ / CP volunteer Assessors. Assessors make recommendations on applications for the Chartered Professional Program and for Registered Professional Engineer of Queensland (RPEQ) Assessments, and also conduct Professional Development (PD) reviews. Two Assessors independently assess each application/PD review. Assessor recommendations are collated by the Manager, Professional Accreditation, and the recommendation forwarded to the CPPC for ratification.

An updated AusIMM Chartered Professional Program (CPP) commenced on 1 January 2018. To support the new program the AusIMM sought expressions of interest for the team of volunteer RPEQ / CP Assessors, who will assess applications and conduct Professional Development (PD) reviews.

8 Financial Capacity and Facilities

Financial Capacity and Facilities to Conduct Assessments of Qualifications and Competencies

The AusIMM as an RPEQ Assessment Entity has provided the AusIMM financial statements for the last three financial years.

The main facilities of the AusIMM are based in Melbourne at our Head Office address in Carlton. The office provides a functional, effective working space for the AusIMM staff and members, including staff offices and workstations, meeting rooms, Board Room, staff facilities and car-parking. The facilities provide space for committee meetings, Board meetings, reception and working space for visiting Members, and for meetings with external parties when required.

Staff numbers as of April 2018 are 37 persons, including the Chief Executive, Stephen Durkin, and the management team.

The Chartered Professional Program Committee has up to nine members, plus AusIMM staff support, as listed below:

Chair
Vice-Chair
Environment representative
Geology representative
Management representative
Mining representative
Metallurgy representative
Geotechnical representative
Social Performance representative
Program Manager & Registrar
Secretariat

The CPPC and Team of Assessors has two part-time staff supporting the administration of the CP and RPEQ Programs and assessment activities.

9 Time for Assessment

Proven Capacity to Undertake Independent and Authoritative Assessments in a Timely Manner

The AusIMM Team of Assessors consists of 21 experienced and qualified Assessors, representing the technical and engineering disciplines for mining professionals. These Assessors are volunteers, and their work remains independent of the daily activities of the AusIMM and the CPPC. The assessment procedures under the AusIMM policies, regulations and guidelines are overseen and administered by the CPPC, who also oversee the work of the AusIMM Assessors. So, while the Assessors' work is independent, there is also separate and independent governance of their assessment processes by the CPPC.

The AusIMM assessment process requires two qualified Assessors to undertake separate RPEQ and/or CP assessments, thereby providing independent reviews of candidate applications. Should the two Assessors disagree on the outcome, the application is referred to the CPPC who then decides on the outcome.

The AusIMM volunteer team of Assessors, supported by the AusIMM Registrar and Secretariat, provide the appropriate capability and capacity to deliver RPEQ assessment outcomes within a 4-6-week period, depending on the complexity of the application.

When an RPEQ application is received, the nominated sponsors are notified and requested to return their sponsors statements within one week. The application is then sent to the Assessors for review and processing. The usual turnaround time for the Assessors to process an application is 3 weeks.

Applications for the more competent and experienced candidates will take approximately 4 weeks overall, including the week for return of sponsors statements. Applications for less competent candidates will take a maximum of approximately 6 weeks overall, including the week for receipt of sponsors statements. Delays in receipt of Sponsors' Statements can extend this time frame further.

10 Criteria Under Regulations

The Scheme or Entity Conducting the Scheme Satisfies Other Criteria Provided for Under a Regulation

The AusIMM remains committed to the role of a BPEQ Assessment Entity and sees the assessment and recommendation of RPEQ candidates in the Mining sector to be a fundamental component of our role as the dedicated professional association for mining professionals.

In its role as an Assessment Entity, the AusIMM will ensure that any and all criteria provided for under a Regulation established by the BPEQ will be included within the procedures of the AusIMM Assessment Scheme, with amendments as required to be submitted to the BPEQ for approval before implementation.

Appendix A: Educational Qualifications

All candidates for recommendation to the Board of Professional Engineers of Queensland shall have a minimum of five years of mining industry experience in the area of the discipline in which he/she seeks recommendation. Those persons shall be graduates of an approved tertiary course of study as outlined below. Additional qualifications and/or experience may be required in order to demonstrate required competencies. Those persons need not be members of the AusIMM but must still meet the experience requirements as described; such persons must hold a recognised engineering degree (or acceptable alternative) relevant to the discipline in which they seek registration.

*** NB: Candidates in the 'Tertiary Qualifications required' and 'Deemed equivalent (Alternative Engineering)' categories must satisfy the requirements of section 1.2.**

*** NB: Candidates in the 'Deemed Equivalent (Science)' category will require a Stage 1 Competency assessment. Please contact the AusIMM Registrar for further details.**

Discipline	Tertiary Qualifications required	Deemed equivalent (Alternative Engineering)	Deemed equivalent (Science)
Environmental Engineering	4-year Bachelor of Engineering (Environmental Engineering)	4-year Engineering primary degree + postgraduate qualification in Environmental field of study + 5 extra years' experience	4-year Environmental Honours degree (BSc(Hons), BEnvSc(Hons)) + postgraduate Degree in Environmental Engineering + 5 extra years' experience
Metallurgical Engineering	4-year Bachelor of Engineering in Metallurgy OR Chemical Engineering	4-year Bachelor of Mechanical Engineering + 1 years' postgraduate qualification in Metallurgy + 5 extra years' experience	
Mining Engineering	4-year Bachelor of Engineering (Mining Engineering)	4-year Bachelor of Engineering in Civil Engineering + postgraduate qualification in Mining Engineering + 5 extra years' experience	
Geotechnical Engineering (Mining)	4-year Bachelor of Engineering (Geotechnical Engineering)	4-year Bachelor of Engineering (Mining or Civil Engineering) + 1 years' postgraduate qualification in Geotechnical Engineering + 5 extra years' experience	4-year Geology Honours Degree (BSc(Hons), BAppSc(Hons)) + postgraduate Degree in Geomechanics + 5 extra years' experience

Appendix B: Competencies

The following competencies / areas of practice are offered as examples of experience that are required for registration as a Professional Engineer in the Mining sector. Professional experience need not be limited to those listed and applications will be considered for appropriate areas of practice in addition to those listed below under each engineering discipline.

Environmental Engineering

1. Environmental science. Collecting, interpreting and applying environmental science data relevant to exploration, mining, mineral processing and closure of operations. Competency indicators include technical understanding of:

1.1. water, land, air, ecology, ecotoxicology, agronomy, geochemistry or other relevant environmental disciplines;
1.2. research techniques, experimental design and data analysis;
1.3. the application of environmental science to the prevention, mitigation and management of development impacts on water, land, air and ecosystems;
1.4. contamination sources and impacts, and remediation methods;
1.5. plant-soil-water interactions as applied to revegetation;
1.6. design of biodiversity offsets; and
1.7. scientific and technical report writing.

2. Environmental engineering. Designing, constructing and operating civil, mechanical or chemical engineering facilities related to environmental management of mining and mineral processing operations. Competency indicators include:

2.1. design, construction and operation of water treatment and recycling plants
2.2. design, construction and operation of facilities to treat contaminated soils, wastes and air emissions
2.3. design, construction and operation of facilities to suppress noise and vibration
2.4. understanding the waste hierarchy;
2.5. preparing and implementing programs to maximize the efficiency of water use and energy use;
2.6. developing and implementing programs to abate greenhouse gas emissions; and
2.7. developing and implementing cleaner production methods.

3. Rehabilitation, remediation, closure and repurposing. Designing and implementing programs to remediate and rehabilitate disturbed areas to achieve defined criteria and repurposing and closure objectives. Competency indicators include:

3.1. knowledge of methods to characterise soil, waste rock, tailings and residues;
3.2. knowledge of how material properties influence plant growth;
3.3. contamination sources and impacts;
3.4. design and construction of landforms, cover systems and water management structures;
3.5. design and implementation of methods for remediating contaminated materials;
3.6. species selection and plant establishment techniques;
3.7. engaging with internal and external stakeholders;
3.8. contributing to multi-disciplinary teams (environment, social, economic, engineering) to develop and evaluate post-closure and/or repurposing land use options;
3.9. determining closure objectives and completion criteria for facilities, structures and rehabilitated land;
3.10. preparation of closure management plans and closure/repurposing cost estimates;

3.11. assessment of closure and post-closure/repurposing (residual) risks; and
3.12. implementation of decommissioning, demolition, rehabilitation and repurposing projects

4. Environmental impact assessment. Collecting and interpreting data relevant to impacts on the environment resulting from exploration, development, operations and closure activities. Competency indicators include:

4.1. describing the existing biophysical and socio-economic environment;
4.2. designing and implementing baseline studies;
4.3. describing the proposed project and associated environmental mitigation measures;
4.4. predicting environmental effects under proposed operational scenarios and under abnormal conditions;
4.5. preparing environmental impact assessment documentation;
4.6. coordination of multi-disciplinary teams and integrating environmental impact assessments with engineering, social, economic and project feasibility studies; and
4.7. designing and implementing engagement programs with affected communities and other stakeholders in relation to environmental impacts.

5. Environmental monitoring. Designing and implementing environmental monitoring programs and recording data relevant to exploration, mining and mineral processing. Competency indicators include:

5.1. identification of environmental indicators;
5.2. knowledge of monitoring methods and equipment;
5.3. design and implementation of monitoring programs;
5.4. knowledge of databases, statistical analysis and interpretation of environmental data; and
5.5. presentation of technical data and preparation of monitoring reports.

6. Environmental planning and management. Using environmental knowledge to minimize adverse impacts over the entire life cycle of mining and mineral processing operations. Competency indicators include:

6.1. integration and coordination of environmental, engineering and financial knowledge to design and plan operations;
6.2. undertaking environmental risk assessments;
6.3. understanding of Geographical Information Systems;
6.4. identifying, documenting and interpreting legal and organizational environmental obligations; 6.5. preparation and implementation of environmental management systems, plans and procedures;
6.6. undertaking environmental auditing;
6.7. reviewing performance and implementing performance improvement and corrective action programs;
6.8. investigation of environmental incidents; and
6.9. preparation of emergency procedures.

7. Stakeholder engagement relating to the environment. Undertaking and/or participating in effective communication and engagement regarding environmental matters with affected communities and other stakeholders. Competency indicators include:

7.1. knowledge of organizational structure and permitting, approval and compliance processes of environmental regulators;

7.2. designing and implementing effective communication, consultation and engagement with affected communities and other stakeholders as part of regulatory approvals processes;
7.3. preparing technical and non-technical environmental information for communication with affected persons, groups and the general public;
7.4. understanding that different customs, norms and values of different groups influence the effectiveness of stakeholder engagement; and/or
7.5. engagement with landholders, non-government organisations, special interest groups or academic institutions.

8. Environmental policy and advice. Understanding and influencing internal and external environmental policy making. Competency indicators include:

8.1. formulation and implementation of environmental policies with due consideration of economic and environmental factors for business, industry associations and government;
8.2. provision of strategic environmental advice; and
8.3. preparation of guidelines for good environmental management and monitoring practices.

9. Mining enterprise management systems. Familiarity with enterprise governance and management systems and using these in the course of ESP work to create business value. Competency indicators include:

9.1. understanding overarching business context, needs and strategies, and positioning ESP accordingly;
9.2. using risk and materiality assessments to appropriately position ESP factors in risk registers;
9.3. managing ESP matters in a way that considers why and how external stakeholders interact with mining enterprises and ensures that interactions add value to them and the enterprises;
9.4. positioning ESP in an organisational context, particularly within the Health, Safety and Environment, Human Resources, Finance, Operations, Risk, Internal Audit, Communication, Government and Public Relations functions.
9.5. managing ESP through an enterprise's existing systems and tools, such as change management approaches, budgeting tools and lean boards;
9.6. establishing ESP accountability in enterprise management frameworks and business practice;
9.7. ensuring ESP compliance and performance consequences are accurately understood and appropriately factored into enterprise internal audit/assurance processes; and
9.8. developing and embedding ESP metrics into business improvement, compliance and reporting.

10. Multi-lateral and financial institutions standards. Managing ESP matters to achieve business compliance with government and other external ESP policies, standards and guidelines. Competency indicators include working knowledge and application of:

10.1. context-specific jurisdictional statutory, regulatory and policy requirements;
10.2. relevant United Nations (UN) and International Labour Organisation (ILO) and other declarations, such as the UN Guiding Principles on Business and Human Rights, the UN Declaration on the Rights of Indigenous Peoples and the Voluntary Principles on Security and Human Rights;

10.3. International Finance Corporation (IFC) and similar Performance Standards;
10.4. Equator Bank and other relevant principles, codes of conduct and good practice;
10.5. Extractive Industries Transparency Initiative (EITI) and the Global Reporting Initiative (GRI);
10.6. OECD Due Diligence Guidance for Responsible Business Conduct;
10.7. relevant management certification standards (e.g. ISO 14001 and ISO 26000); and
10.8. adequately positioning and managing ESP practice, governance and reporting to help secure financing.

11. Sustainable Development principles. Understanding the history of Sustainable Development (SD), evolving Sustainability expectations and how this relates to business Environment-Social-Governance (ESG) performance, metrics and reporting. Competency indicators include working knowledge and application of:

11.1. the economic, social, environmental and governance aspects of Sustainable Development;
11.2. concepts like intergenerational equity, materiality and natural and social capital fungibility;
11.3. ESP in Sustainability Standards Accounting Board approaches;
11.4. sustainable supply chain assessments;
11.5. extractive sector ESP alignment with the UN Sustainable Development Goals (SDGs);
11.6. International Council for Mining and Metals (ICMM) 10 Principles;
11.7. ICMM Sustainable Development Framework and Assurance Standard
11.8. ESP factors in stock exchange sustainability indices and reporting; and
11.9. ESP in annual sustainability reporting consistent with the Global Reporting Initiative (GRI).

12. Workplace and community health, safety and security. Aligning and managing ESP work within a safety oriented culture and enterprise health, safety and security systems, including mental health considerations. Competency indicators include:

12.1. contributing to workplace, supply chain and community health, safety and security risk assessments;
12.2. contributing to workplace, supply chain and community hazard identification and mitigation;
12.3. familiarity and compliance with health, safety and security controls;
12.4. effectively monitoring of ESP-related health, safety and security matters; and
12.5. ability to participate in root cause analysis of ESP-related health and safety incidents.

Metallurgical Engineering

1. Process investigation and test work:

1.1. a minimum of five years' experience of laboratory and pilot plant investigations using mineral processes
1.2. extensive experience in undertaking process investigation and development for mineral projects
1.3. experience in testing and developing new process technology

2. Flow sheet development, plant design and commissioning:

2.1. a metallurgist who uses the results of process investigation and test work to design a flow sheet for a planned mineral development

2.2. a metallurgist with appropriate experience to select and size suitable equipment, and to prepare materials balances for a proposed or existing operation

2.3. usually a person who has had extensive practical process plant operating experience and/or extensive commissioning experience on which to base their design recommendations

3. Project appraisal. Note: This specialisation may not include the economic valuation of existing and proposed metallurgical operations.

3.1. the technical assessment and evaluation of current and proposed mineral treatment operations such as conducting Due Diligences and Independent Technical Reviews (ITRs)

3.2. a person with sufficiently broad and relevant experience to qualify as the author of a Technical Report, as defined in the VALMIN Code (1998) (as modified from time to time), on an exploration property includes supporting JORC Resource and Reserve statements and NI43-101 reports.

4. Project planning and management:

4.1. Extensive experience in the planning, design, implementation and commissioning of new processing plants, or in the upgrading/optimisation of existing processing plants.

5. Project Studies.

5.1. Includes: experiences in studies such as Conceptual, Scoping, Pre-Feasibility and Feasibility, including test work evaluation, flowsheet selection, process modelling, mass and water balances, design criteria, equipment sizing and selection, development of operating and capital costs, provision of inputs for financial modelling, and technical report preparation.

6. Operational management:

6.1. hands-on experience of plant operation and management

6.2. working as a mill or smelter superintendent

6.3. experience gained in trouble-shooting operations

7. Mineral processing:

7.1. the application of mineral processing, such as, but not limited to, flotation, magnetic separation, electrical separation, gravity, sorting, classification and cyanidation in the testing laboratory, pilot plant, or production plant

7.2. experience may have been gained in the treatment of, but not limited to, base and precious metal ores, uranium ores, iron ores, mineral sands, alloying metal ores (manganese, chromium, tungsten, molybdenum, etc.), rare earth ores and industrial minerals such as graphite and mineral sands

7.3. establish and manage tailings discharge requirements including an Operation, Maintenance and Surveillance (OMS) Manual, Dam Safety Emergency Response Plan, and facilitate routine compliance inspections/audits.

8. Hydrometallurgy (including electrowinning, leaching and bacterial action):

8.1. the application of hydrometallurgy to mineral processing operations, in the testing laboratory, pilot plant, or production plant

8.2. may have chemical engineering qualifications rather than metallurgy

8.3. experience gained in the treatment of uranium, copper, nickel and rare earth ores, but not gold cyanidation

9. Roasting, smelting and refining:

9.1. experienced in pyrometallurgical or electrometallurgical aspects of mineral processing
9.2. experience may be in laboratory investigations plant/ process design or in operations, or in all of these

10. Comminution and sizing.

10.1. a metallurgist who advises on aspects of size reduction including crushing, grinding and sizing in a production plant or staged crushing, sieving, cyclosizing/laser sizing in a laboratory
10.2. the person may have spent most of their career working in this field of processing

11. Materials handling:

11.1. experience in materials handling by conveyor, elevator, chutes, pumped slurry, thickening, tailings management and storage etc.
11.2. qualifications may be in metallurgy or in chemical or mechanical engineering

12. Coal washing. A metallurgist with experience in the test work, development, design, commissioning and/or operation of coal washeries.

13. Infrastructure management:

13.1. the assessment and/or the design, construction and/or management of power and water supply facilities and/or tailings storage facilities.
13.2. qualifications may be in metallurgy, but may also be in other fields of engineering

14. Laboratory testing methods.

14.1. Includes knowledge/understanding of basic mineral processing laboratory techniques such as Work Index determination, breakage factors, locked cycle flotation testing, variability testing, leaching, effect of gangue minerals, dewatering and mineralogical techniques such as XRD and QEMSCAN/MLA for liberation and quantitative mineralogical analysis.

15. Geochemical Analytical Methods.

15.1. Includes knowledge of basic geochemical techniques, particularly where they apply to metallurgical assays of head, tailings and concentrate samples. Examples include XRF, XRD, Wet Chemistry Methods, ICP-OES, ICP-MS, AAS etc.

16. Safety, health and risk.

Implementation of workplace health and safety systems that provide for:
16.1. hazard identification (particularly in the usage of chemicals, heat, pressure and electromagnetic/electrostatic fields)
16.2. risk assessment
16.3. implementation of controls
16.4. effective monitoring
16.5. comprehensive review.

This should be undertaken with reference to appropriate codes and guidelines.

Mining Engineering

1. *Coal mining open pit:*

Extensive experience in Coal Reserve estimation, planning, design, mining operations, scheduling, budget preparation, risk management, operations coordination and management of open pit coal mines.

2. *Coal mining underground:*

Extensive experience in Coal Reserve estimation, planning, design, mining operations, scheduling, budget preparation, risk management, operations coordination and management of underground coal mines.

3. *Coal project technical, technical auditing and technical due diligence:*

A well-rounded understanding of Coal Reserve estimation, planning, design, operations, scheduling, budget preparation, risk management, supporting infrastructure requirements, construction and operations coordination and management of coal mines.

4. *Metalliferous mining open pit:*

Extensive experience in Ore Reserve estimation, planning, design, mining operations, scheduling, budget preparation, risk management, operations coordination and management of metalliferous open pit mines.

5. *Metalliferous mining underground:*

Extensive experience in Ore Reserve estimation, planning, design, mining operations, scheduling, budget preparation, risk management, operations coordination and management of underground metalliferous mines.

6. *Metalliferous project technical, technical auditing and technical due diligence:*

A well-rounded understanding of Ore Reserve estimation, planning, design, scheduling, budget preparation, risk management, supporting requirements, construction and operations coordination, and management of metalliferous mines.

7. *Alluvial mining, dredging:*

A well-rounded understanding of Ore Reserve estimation, planning, design, mining operations scheduling, budget preparation, risk management, supporting infrastructure requirements, construction and operations coordination and management of alluvial mines.

8. *Quarrying:*

A well-rounded understanding of Ore Reserve estimation, planning, design, mining operations, scheduling, budget preparation, risk management, supporting infrastructure requirements, construction and operations coordination and management of quarries.

9. *Mine services:*

A well-rounded understanding of mining construction and operations and the required supporting infrastructure including ventilation, backfill, de-watering, haulage, utilities and maintenance to service the operations.

10. *Geotechnical services:*

A well-rounded understanding of rock mechanics, slopes stability and water management during mining construction and mining operations, experience in assessing ground conditions and associated risks.

11.*Safety, health and risk.*

Implementation of workplace health and safety systems that provide for:

11.1. hazard identification
11.2. risk assessment
11.3. implementation of controls
11.4. effective monitoring
11.5. comprehensive review.

Geotechnical Engineering

1. *Areas of Practice*

A Geotechnical (Mining) professional investigates plans, designs and monitors the process of creating fit-for-purpose mining excavations associated with the surface or underground excavation of an in-situ rock mass, or matters directly associated therewith, including the construction or excavation of in-pit or underground infrastructure, the construction of waste dumps and stockpiles, or tailings dams, and the placement of backfill.

This discipline does not include geotechnical investigation and design for the construction of civil infrastructure on a mine site, specifically including access roads and rail lines, foundations for the construction of buildings and processing facilities. The discipline also does not cover civil tunneling or civil underground storage.

The following areas of practice are offered as examples of experience that is required for registration as a Chartered Professional (Geotechnical - Mining). Professional experience need not be limited to those listed and applications will be considered for appropriate areas of practice in addition to those listed below.

2. *Site characterisation:*

2.1. follow industry standard mapping requirements and enhance proficiency in geotechnical mapping skills with the ability to identify and focus on important aspects of the geotechnical features of the site and the excavations/structures to be developed;
2.2. ability to finalise sectional interpretations for geotechnical domain definition and structural models for mine designs and tailings dam foundations;
2.3. ability to integrate geotechnical data into a field work component (e.g. sections, plans, etc);
2.4. plan and supervise data acquisition programs, interpret and analyse the data and report appropriately;
2.5. demonstrated ability to recognise and interpret the significance of lithological units, alteration and structural in the field;
2.6. ability to review, identify and design drill hole programs;
2.7. ability to manage daily drilling activities and daily supervision of contractors;
2.8. compile databases and reports on rock mass parameters;
2.9. ability to plan, implement and manage field projects;

2.10. ability to recommend or undertake appropriate rock property testing and sample selection.

3. Geotechnical analysis and design

3.1. develop a model of the major geologic structures and geotechnical features of the mine or tailings dam site;
3.2. determine the geotechnical properties and domains within the mine / tailings storage facility site;
3.3. assess rock mass quality within geotechnical domains;
3.4. demonstrate familiarity with empirical, analytical and numerical design methods;
3.5. carry out numerical modelling of stress and displacement and recommend actions resulting from this investigation;
3.6. understand limitations of analytical and numerical modelling tools;
3.7. design instrumentation programs and interpret data from instrumentation (e.g. ground movements from displacement monitoring equipment, stress/strain change, micro-seismicity, pore pressure, etc.);
3.8. prepare and maintain key regulatory documentation (ground control management plan, open pit management plan, voids management plan, etc.);
3.9. demonstrate an understanding of the water balance model for a tailings storage facility and design of water management infrastructure;
3.10. design and implement ground support standards, or site-specific ground control installations;
3.11. review, update, and optimise geotechnical design guidelines for mine planning requirements.

4. Monitoring:

4.1. ensure rock mass parameters and ground movements are captured in the mine database and in a timely manner;
4.2. ensure information from rock mass assessments and ground movement monitoring is interpreted in a timely manner;
4.3. analyse and report trends in monitoring data;
4.4. analyse and report data from ground support quality testing programs (e.g. grout, groundwater, shotcrete, etc);
4.5. analyse and report on testing of mine fill;
4.6. design and specify instrumentation programs for monitoring;
4.7. supervise installation and maintenance of monitoring equipment;
4.8. implement instrument reading and data collation programs;
4.9. monitor ground performance and make recommendations accordingly;
4.10. ensure systems are in place to determine the effect stress changes are having and will have on the mine environment;
4.11. ensure systems are in place to monitor and assess mine seismicity in a timely manner;
4.12. ensure collection and analysis of groundwater from mine environment (grout and fill samples) for testing;
4.13. monitor ground vibrations resulting from development and stope blasting.

5. Mining systems:

5.1. sound practical understanding of common mining methods, mining equipment capability and their interaction with the mine environment;
5.2. provide appropriate information to mine management on the effect current mining practices are having on localised and mine-site wide ground stability issues in a timely manner;
5.3. communicate with and train the workforce on geotechnical hazard awareness.

6. Tailings Facilities Design and Management

6.1. Investigation, planning, design, operation and monitoring of the performance of structures for the storage of tailings, or associated matters;

6.1.1 planning of tailings management processes, investigation of foundations for tailings facilities and associated infrastructure, design of embankments, managing quality assurance and control of construction, design and implementation of tailings discharge processes;
6.1.2 confirming achievement of required conditions, periodic raising of storages and safe closure of facilities on completion of filling;

6.2. Knowledge of relevant Legislation, Guidelines and Standards;

6.2.1 demonstrate a knowledge and understanding of relevant legislation leading industry practice in accordance with national and international guidelines and standards related to tailings facility design, construction, management and subsequent closure.

6.3. Tailings Management Process Selection:

6.3.1 ability to identify and evaluate potential tailings management process options;
6.3.2 ability to select the most appropriate tailings management process through an industry standard multi-criteria assessment process and risk assessment;
6.3.3 ability to select an appropriate site for tailings disposal using the process determined;
6.3.4 be able to competently determine the Consequence Category of the tailings storage at the chosen site, using industry guidelines;
6.3.5 understand the requirements of the tailings storage at the chosen site through the lifetime of the storage including the initial development, operations, progressive raising, eventual closure and the potential long-term post-closure performance.

6.4. Tailings Storage Site Characterisation:

6.4.1 follow industry standard mapping requirements, and enhance proficiency in geotechnical mapping skills with the ability to identify and focus on important aspects of the geotechnical features of the site and the structures to be developed;
6.4.2 ability to finalise sectional interpretations for geotechnical domain definition and structural models of foundations;
6.4.3 ability to integrate geotechnical data into a field work component (e.g. sections, plans, etc.);
6.4.4 plan and supervise data acquisition programs, interpret and analyse the data and report appropriately;
6.4.5 demonstrated ability to recognise and interpret the significance of lithological units, alteration and structure in the field;
6.4.6 ability to review, identify and design drill hole programs;
6.4.7 ability to manage daily drilling activities and daily supervision of contractors;
6.4.8 compile databases and reports on rock mass parameters;
6.4.9 ability to plan, implement and manage field projects;
6.4.10 ability to recommend or undertake appropriate foundation and construction property testing and sample selection.

6.5. Tailings Dam Geotechnical Analysis and Design

6.5.1 develop models of the major geologic structures and geotechnical features of the foundations;
6.5.2 develop structural concepts for dam embankments including zoning and internal features such as filters, drainage, foundation treatment including interaction with tailings if appropriate;
6.5.3 determine the geotechnical properties of the components of the design;
6.5.4 demonstrate familiarity with empirical, analytical and numerical design methods for embankment dams;
6.5.5 carry out numerical modelling of stress and displacement and recommend actions resulting from investigation;
6.5.6 understand limitations of analytical and numerical modelling tools;
6.5.7 design instrumentation for the tailing's storage including ground movement, internal pore pressure and seepage flow;
6.5.8 demonstrate an understanding of the water balance model for a tailings storage facility and design water management infrastructure;
6.5.9 prepare and maintain key regulatory documentation; review, update, and optimise geotechnical design guidelines for mine planning requirements.

6.6. Operation, Maintenance and Surveillance:

6.6.1 establish and manage tailings discharge operations documentation including an Operation, Maintenance and Surveillance (OMS) Manual and Dam Safety Emergency Response Plan;
6.6.2 prepare tailings and water management plans for long, medium and short-term use by operators;
6.6.3 prepare and manage surveillance inspections to industry standards;
6.6.4 analyse and report trends in monitoring data;
6.6.5 design and specify instrumentation programs;
6.6.6 supervise installation and maintenance of monitoring equipment;
6.6.7 be cognizant of operational processes supporting closure designs and post-closure sustainable land use.

7. Safety, health and risk.

Implementation of workplace health and safety systems that provide for:

7.1 hazard identification;
7.2 risk assessment;
7.3 implementation of controls;
7.4 effective monitoring;
7.5 comprehensive review.

Appendix C: Professional Development (PD) requirements

Category	Category Description	Comments	Maximum permitted hours (out of 150 hours total in three years)
A	**Formal Education:** Undertaking formal coursework relevant to the member's area of practice (postgraduate education, other coursework, programs, and certificates).	Report actual lecture hours or equivalent research hours or online engagement hours.	No maximum
B	**External and Internal Short Courses**: Technical and commercial courses not taken for award/degree purposes	Courses for general life skills not permitted.	No maximum
C	**Technical Conferences and Learned Society Meetings**: Including AusIMM Technical Meetings. Attending and presenting at relevant technical conferences, meetings, seminars, workshops and site visits that can be shown to add value to the member's practice.	Only technical learnings from non-technical events may be claimed and must be substantiated. 10 hours may be claimed for delivering a 1-hour technical presentation and may only be claimed once (not for repeat presentations).	No maximum
D	**Publications:** Material written and published in technical journals and technical conference papers.	May claim up to 40 hours for each technical paper or research report for conferences; up to 50 hours for papers subject to peer review for learned journals.	No maximum
E	**On-the-job Skill Enhancement:** Time spent on formal, structured and company-sponsored on-the-job training programs; personal self-education; and on-the-job research and evaluation	Claims must demonstrate that professional skills have been developed.	45 hours maximum in three years
F	**Private Reading of Learned Publications**: Relevant to the member's practice and the demonstrated use of the information gained.	Must demonstrate relevance to the member's practice and the new or enhanced learnings	52.5 hours maximum in three years
G	**Structured Mentoring**: Being part of a structured mentoring program (as a mentor or mentee)	Must be a structured formal program. Training/mentoring of own staff not able to be claimed.	30 hours maximum in three years
H	**Service to industry:** Active participation as a member of an industry committee, panel, board or similar	May include meeting attendance, preparation and associated work.	52.5 hours maximum in three years
I	**Peer reviewing:** Of technical journal, conference, lecture or course papers	Up to 1 hour per paper.	No maximum
J	**Other Activities:** That advance CPD but don't fall into the above categories	Must demonstrate relevance to the member's practice and the new or enhanced learnings	No maximum

Appendix D: Chartered Professional Program Committee (CPPC) Terms of Reference

Purpose

The Chartered Professional Program Committee provides governance for the Chartered Professional Program of the AusIMM. The Chartered Professional Program Committee will report to the Chief Executive Officer of the AusIMM under authority delegated by the Board.

Terms of Reference

1. Oversee the Chartered Professional Program and provide governance to ensure the program is compliant with the AusIMM Charter and By Laws, and the Chartered Professional Regulations and Guidelines.
2. Make recommendations on Chartered Professional Program strategic direction to the AusIMM Board.
3. Make recommendations for amendments to the Chartered Professional Regulations to the AusIMM Board.
4. Create and review CP program policies and processes.
5. Appoint and maintain a sufficient number of Chartered Professional members as Assessors in various disciplines to achieve application assessments and professional development reviews in a timely manner.
6. Consider for ratification the outcomes of application assessments and professional development reviews.
7. Consider and decide the outcome of any special consideration requests.
8. Consider and decide the outcome of an application assessments or professional development review following an Assessor disagreement.
9. Monitor the performance of Assessors by performing quality assurance audits, or delegating these audits to experienced Assessors.
10. Liaise with stakeholders to promote and support the program.
11. Form sub-committees as required.
12. Report on the Chartered Professional Program to the CEO and AusIMM Board, including regular reports on memberships and budget.

CPPC Membership

1) The Chartered Professional Program Committee shall be constituted with a minimum of six (6) and maximum of (9) Chartered Professional members being:

a. One member from each of the six (6) Chartered Professional disciplines, who has been a CP for a minimum of five (5) years. Each member will be nominated from and elected by the AusIMM's Chartered Professionals.

b. A Chair and a Deputy Chair and/or Immediate Past Chair of the CPPC if they are not in the six (6) members specified above because their elected terms have been completed.

c. The Chief Executive Officer of the AusIMM (ex-officio member), who shall abstain from voting in any matters relating to Chartered Professional accreditation or policy in order to administer any appeals that may arise from the committee's activities.

d. A Registrar appointed by the AusIMM Chief Executive Officer who will be a non-voting ex-officio member of the CPPC and responsible for Secretariat services.

e. The Board may appoint a member with specialist skills from time to time.

2) The elected members of the CPPC will serve for a period of three years from 1 January. One third of the elected members of the CPPC will retire in any year. A retiring member will be eligible for re-election once and may not stand for re-election following the completion of two full terms until at least one (1) year has passed, and then may only seek re-election when their discipline next has a vacancy. Any casual vacancy filled prior to the start of the first full term is not an impediment to that member standing for a second consecutive term.

3) A Deputy Chair will be elected by the CPPC from CPPC members every two (2) years. The Deputy Chair will be in this role for one (1) year, then will be Committee Chair for two (2) years followed by one (1) year as Immediate Past Chair.

4) Nominations for membership of the CPPC will be called no later than 1 September and will be accepted no later than 30 September in each year for each vacating discipline (two per year). Nominations must be sponsored in writing by three (3) AusIMM Chartered Professionals, of which at least one must be within the relevant Chartered Professional discipline.

5) Members of the CPPC shall be elected by a secret electronic ballot of all registered AusIMM Chartered Professionals. The ballot will close on 30 November of each year, or another earlier date as the CPPC may determine. The candidates receiving the largest number of votes in their nominated discipline will be elected. An independent Returning Officer will determine the results of the ballot.

6) Any casual vacancy (due to resignation, retirement etc.) may be filled by the CPPC until the next election with a Chartered Professional of the relevant discipline. At the next voting period, the remainder of the casual vacancy term (if any) must be filled by voting for a partial term.

7) Should a CPPC member be unable to fulfil their duties and fails to resign or obtain leave, the CPPC may, after due warning, remove that member and fill the resulting casual vacancy.

8) Members of the CPPC must declare to their colleagues any potential real or perceived conflicts of interest in being a party to considering each matter and must excuse themselves where appropriate. If the Committee is unable to achieve a quorum due to the enactment of this provision, the CPPC may appoint additional members for the purposes of dealing with the relevant matter.

9) Members of the CPPC will resign their CP Assessor role while on the committee.

Frequency of meetings
The CPPC shall meet monthly.

Quorum
The quorum for meetings shall be 50 per cent of the committee members plus one. In the absence of a quorum a meeting shall be adjourned.

Secretariat
Registrar, AusIMM Services

Appendix E: Sponsor Requirements

1. Sponsors should be familiar with and be able to substantiate the applicant's qualifications and experience. Sponsors will be asked to provide a detailed peer review to confirm the competency of the applicant.

2. Each sponsor should have worked with the applicant for a period of at least 12 months.

3. Sponsors should be RPEQ, AusIMM Chartered Professionals or Chartered members of other relevant organisations. If this is not possible, sponsors should be, in order of preference: Registered Engineers, Fellows of the AusIMM, or professionals who, in the opinion of the CPPC, are of comparable standing, and who are in a position to assess the applicant's work in the discipline of accreditation which is being sought.

4. Ideally one sponsor should be an RPEQ or CP in the discipline being applied for.

5. Only one sponsor may be from the current employer, except where the applicant has less than eight years' experience and the majority of which has been with their current employer. In this case two sponsors can be from the same employer.

6. The other two sponsors should be:

   6.1. from other organisations, clients, previous employers or former employees of the current employer; and

   6.2. from different stages of the applicant's career, excluding the current workplace.

   6.3. able to assess different periods of employment, if these two sponsors are from the same organisation.